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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,235	03/10/2004	Ta-Ko Chuang	B-4442CIP 621763-9	3558

7590 06/04/2007

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EXAMINER	
AFTERGUT, JEFF H	

ART UNIT	PAPER NUMBER
1733	

MAIL DATE	DELIVERY MODE
06/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,235	CHUANG ET AL.	
	Examiner	Art Unit	
	Jeff H. Aftergut	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant has added to each of the independent claims that the melting of the glass took place "without cutting the glass substrate". The applicant certainly described a process of melting the edge of the glass whereby there was no cleaning step required subsequent to the smoothing operation and no debris or dust created in the grinding and/or smoothing operation, however there is no support for the claims as presented whereby there is an exclusion of cutting with the laser devices. The applicant was not in possession of a lack of the cutting operation in the process of melting as claimed.

Regarding newly presented claim 12, while there is support to recite that the melting operation was performed with two laser devices where the angle of the laser devices was different, see Figure 3a, the disclosure did not recite that the first angle was larger than the second angle and give some point of reference for this. It is not clear what the point of reference is and it is therefore not possible for applicant to recite that one angle is larger than the other.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, the applicant recites that the first angle is larger than the second angle but provides no pint of reference as to what the angle is measured from. As such, the exact scope of the claim cannot be ascertained.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 6-8, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Korean Patent Publication 2001-0057008 (newly cited, English abstract accompanying the document).

The admitted prior art is discussed in detail in paragraph 2 of the Office action dated August 17, 2006. The applicant is referred to the same for a complete discussion of the reference. The admitted prior art suggested that those skilled in the art at the time the invention was made would have bonded an integrated circuit device to a glass substrate wherein the integrated substrate included a driver circuit a connecting wire and a main substrate. The connecting wire was stated to have been bonded to the protecting circuit on the glass substrate with an adhesive and a plurality of conductive particles. The glass substrate was provided with a protecting circuit. The admitted prior

art performed a machining operation on the glass along the edge of the same in order to bevel the glass therein and failed to teach that one skilled in the art would have incorporated a laser in the process whereby the edge portions of the glass were melted (cut) to provide the bevel in the region where the metal components of the protecting circuit was located.

It was known at the time the invention was made to bevel the edge of a glass substrate with the assist of a laser whereby the sharp edge portion of the glass was removed by melting the glass in a manner which did not result in any generation of any dust as taught by Korean Patent Publication '008. The reference to Korean Patent Publication '008 additionally suggested that the exposure of the edge to the laser to melt the material removed the sharp edge of the glass and that because a laser was used for the same it avoided the need for a washing process after the glass was so treated. When a grinding operation was performed, the reference suggested that a cleaning operation was necessary as the cleaning operation generated dust therein. One of ordinary skill in the art at the time the invention was made would have utilized the techniques of Korean Patent Publication 2001-0057008 in order to the sharp edges of the glass while at the same time preventing dust from generating and thereby eliminating the need for a cleaning step when processing the glass in the process of attaching a circuit to a glass in accordance with the admitted prior art.

With regard to claim 7, the applicant is referred to the admitted prior art which clearly suggested that one skilled in the art would have applied a protective circuit upon the glass substrate; see circuit 14 on the glass. Regarding claim 8, note that an

integrating circuit was disposed on the protecting circuit, see circuit 13. The applicant is advised that the admitted prior art additionally suggested that integrated circuit device included a driver circuit 131 and a connecting wire adhered on the glass substrate and a main board 133 connecting the connecting wire 132, see the discussion of the admitted prior art. Regarding claim 16, see adhesive with conductive particles 15 therein. Regarding claim 17, as depicted in Figures 1d and 1e, the radius at the edge of the glass substrate was between the main board 133 and the adhesive used to bond the main board to the glass. Regarding claim 18, note that the driving circuit 131 was additionally known to have been disposed on the main board 133, see Figure 1d. regarding claim 19, note that the driving circuit was additionally known to have been disposed upon the connecting wire in the admitted prior art, see Figure 1e.

7. Claims 1-5, 9-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 6 further taken with Choo et al (6,297,869).

While the references as set forth above clearly suggested that one skilled in the art would have exposed the surface to a laser in order to melt the edge of the glass therein, the prior art failed to express that two separate laser devices would have been employed in the processing. It should be noted, as previously expressed in paragraph 2 of the Office action dated August 17, 2006 that it was known at the time the invention was made that the protecting circuit would have been disposed upon the surface of the glass prior to the machining (grinding) of the same in the admitted prior art. The reference to Choo et al suggested that those skilled in the art at the time the invention

was made would have Choo et al suggested that it was known at the time the invention was made to employ a laser to cut a liquid crystal display device including the use of a first laser having a first wavelength and a second laser having a second wavelength which was responsible for cutting the buffer layer in the assembly. Note that the buffer layer of the assembly was in fact a metal layer therein. The applicant is more specifically referred to first laser light emitter 202 responsible for cutting the glass substrate 152 and second laser light emitter 204 responsible for cutting the buffer layer 158 of the assembly. The applicant is referred to column 10, lines 33-47. While Choo et al employed the two lasers to cut the material therein, one viewing the reference would have readily appreciated that the use of two lasers therein was a function of the need to work on different materials therein (glass and metal) and one viewing the references as set forth above would have readily appreciated that there were metal and glass materials present at the edge of the material in the admitted prior art. As such, it would have been within the purview of the ordinary artisan to employ two different lasers having two different wavelengths of light in order to treat the metal and glass present at the edge of the assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Choo et al to melt (in accordance with the teachings set forth above only melting is necessary in the processing) a glass layer as well as a metal layer in a liquid crystal display device manufacture wherein it was desirable to remove material from the edge of the protecting circuit and glass of the display panel arrangements of the admitted prior art as set forth above in paragraph 6.

With respect to the various dependent claims, the structure of the circuit was clearly taught by the admitted prior art. Regarding the processing defined by the use of two lasers, note that the reference to Choo et al clearly suggested different wavelengths of laser light for the processing therein. To utilize one with a short waveform and one with a longer waveform would have been within the purview of the ordinary artisan. Additionally, to apply the laser to the substrate at different angles in order to strike the material being treated at the proper angle thereto would have been within the purview of the ordinary artisan. Those skilled in the art would have understood that the focus of the laser at the proper angle to the substrate being treated would have been necessary in order to ensure that the material being treated was melted in accordance with the desire to do the same and such is taken as conventional in the art.

Response to Arguments

8. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

It should be pointed out at the outset, that applicant has never disputed that the glass material of the admitted prior art included the protective circuit thereon which extended to the edge of the glass plate. As such applicant has acquiesced the same.

Additionally, the only argument presented by applicant is that there is no cutting of the material in the processing as claimed. The reference to Korean Patent Publication '008 clearly suggested the treatment of glass in a like manner which avoided the need to clean the glass after processing as well as the removal of dust or debris in the processing by melting the glass with a laser. Applicant's arguments in this regard have

not been found to be persuasive as the reference performed the laser melting for the same reason as applicant and achieved the same end result as applicant. It should be noted in this regard additionally that it is not clear whether applicant was in possession of the invention at the time the application was filed in that the disclosure never excluded the cutting of the substrate, see the discussion above.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

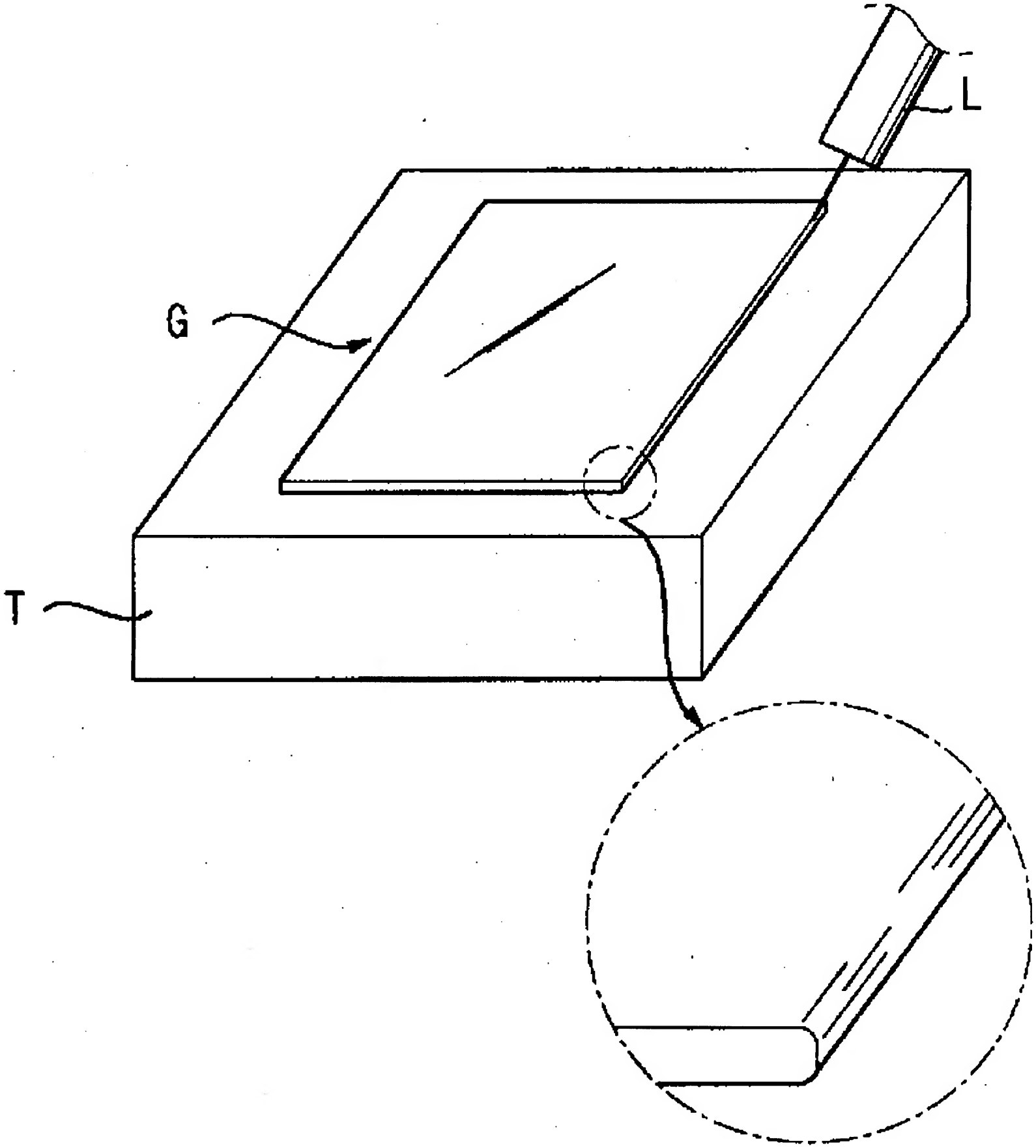
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
May 24, 2007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